

CLAIMS:

1. A fluid contact chamber comprising:

a container for a first fluid having first and second sides separated by a space there
between;

5 at least one inlet for introducing a flow of a second fluid;

a means for directing the flow of said first fluid such that at least one eddy is formed, said
means for directing comprising:

at least one first baffle extending from said first side toward said second side, forming a
first gap between said first baffle and said second side, said first baffle inclining upwardly at a
10 first angle between 10° and 45°; and

an outlet for passage of the first and second fluid.

2. The chamber of claim 1 further comprising:

at least one second baffle extending from said second side toward said first side, forming
a second gap between said second baffle and said first side, and inclining upwardly at a second
15 angle.

3. The chamber of claim 1 further comprising:

a venturi tube for introducing the first fluid and the second fluid mounted at the at least
one inlet.

4. The chamber of claim 1 wherein a catalyst is disposed in the container.
5. The chamber of claim 1 wherein at least a portion of a surface of the first baffle is modified to promote precipitation.
6. The chamber of claim 2 further comprising a means for chemical modification.
- 5 7. The chamber of claim 6 wherein the means for chemical modification comprises an ultrasonic emitter.
8. The chamber of claim 8 wherein the means for chemical modification comprises a source of ultraviolet energy.
9. The chamber of claim 6 wherein each of an adjacent pair of said at least one first and second baffles of the means for directing the flow is disposed at an angle relative to the ultrasonic emitter such that an emitted ultrasonic signal is directed through the eddy.
10. The chamber of claim 4, wherein said catalyst is titanium dioxide.
11. The chamber of claim 10 wherein the inlet is at a lower portion of the container.
12. The chamber of claim 2 wherein at least one of said at least one first and second baffles extends across 80% of the width of the chamber.
- 15 13. The chamber of claim 3 wherein said means for directing further comprises an insert removable from the container and supporting at least one of said at least one first and second baffles.

14. The chamber of claim 13 wherein the insert is constructed and arranged to fit within the container and to be distanced therefrom to provide for a fluid flow between the container and the insert.
15. The chamber of claim 1 comprising an inlet and an outlet for each of the first fluid and the second fluid, the first fluid being introduced to the chamber to flow counter to the flow of the second fluid.
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16. The chamber of claim 1 wherein said directing means defines a serpentine flow path through said chamber.
17. The chamber of claim 1 wherein said first angle is between 22.5° and 27.5°.
18. The chamber of claim 1 wherein said first angle is substantially equal to 22.5°.
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19. The chamber of claim 2 wherein said second angle is between 22.5° and 27.5°.
20. The chamber of claim 2 wherein said second angle is substantially equal to 22.5°.
21. The chamber of claim 2 wherein an adjacent pair of said at least one first baffle and said at least one second baffle forms a third gap defining a truncated triangular cross-section.
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